

Claims

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Sub B 7.

A filler device having a filler neck (23) and a closure cap (1) which has an engagement segment (4), the engagement segment (4) and filler neck (23) having complementary engagement elements (7, 8, 25, 26), for example in order to form a threaded or bayonet connection, which can be brought, by movement of the closure cap (1) with respect to the filler neck (23), from an initial position without engagement via an engagement path subsequent thereto into a final position, and vice versa; a locking device (13, 14) which prevents the closure cap (1) from falling off by itself being arranged and configured in such a way that it generates an elevated resistance to movement in a specific movement region of the closure cap (1), characterized in that the locking device (13, 14) is arranged in such a way that it is effective at a distance from the final position.

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The filler device as defined in Claim 1, characterized in that the locking device (13, 14) is arranged in such a way that it is effective in the first third of the engagement path toward the final position.

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The filler device as defined in Claim 2, characterized in that the locking device (13, 14) is arranged in such a way that it is effective at the beginning of the engagement path toward the final position.

4. The filler device as defined in Claim 1, characterized in that the locking device (13, 14) is arranged in such a way that it is effective in the movement region before the engagement path.

5. The filler device as defined in Claim 4, characterized in that the locking device (13, 14) is arranged in such a way that it is effective in the movement region before the initial position is reached.

Sub A1
10 6. The filler device as defined in Claim 4 or 5, characterized in that the locking device (13, 14) is arranged in such a way that it is effective in the initial position.

15 7. The filler device as defined in one of Claims 1 through 6, characterized in that the movement region comprises an axial path for emplacement of the closure cap (1) until the initial position is reached, and, subsequent thereto, a circumferential path until the final position is reached, the circumferential path comprising the engagement path.

20 8. The filler device as defined in Claims 6 and 7, characterized in that the locking device (13, 14) is effective in the region of the transition from axial path to circumferential path.

Sub A2
The filler device as defined in one of Claims 1 through 8, characterized in that the locking device (13, 14) has a resiliently deflectable locking lug (15, 16) on one of

the parts (filler neck (23) or closure cap (1)), which is located in the movement region of one engagement element (25, 26) against the other part (23).

10. The filler device as defined in Claim 9, characterized in that the locking lug (15, 16) is arranged on the closure cap (1).

11. The filler device as defined in Claim 10, characterized in that the neck-mounted engagement element has an engagement projection (25, 26), and the cap-mounted engagement element has an engagement groove (7, 8).

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12. The filler device as defined in Claim 11, characterized in that the cap-mounted engagement element (7, 8) has an axial segment and a circumferential segment.

13. The filler device as defined in Claim 11 or 12, characterized in that the locking lug (13, 14) is arranged at the transition from the axial to the circumferential segment, and has inclined ramps (19, 20, 21, 22) in the axial and the radial direction.

14. The filler device as defined in one of Claims 1 through 13, characterized in that the filler neck (23) and the closure cap (1) have several pairs of complementary engagement elements (7, 8, 25, 26), which are arranged in such a way that the closure cap (1) can be emplaced in a corresponding number of initial positions; and that an equal number of locking devices (13, 14) is provided.